



Quick Reference Guide 7

Excel 2013 for Windows

PivotTable Reports



Understanding PivotTables

PivotTables use an Excel program tool to reorganize and summarize selected columns and rows to create a desired report result. PivotTables are interactive tables that automatically extract, organize, and summarize your data.

What can a PivotTable do? It can help you analyze data, make comparisons, detect patterns and relationships, discover trends, and help you make informed decisions about critical data in your enterprise.

Some of the interactive features included provide the ability to:

- Query large amounts of data;
- Subtotal aggregated data;
- Summarize by category;
- Create custom calculations; and
- Consolidate multiple ranges into one PivotTable.

You can explore the data by expanding and collapsing levels of data, moving rows to columns or columns to row (pivoting), filtering, sorting, grouping, rearranging, hiding and slicing data.

Team	Driver	Total Winnings
⊕ Earnhardt Ganassi Racing		8.02%
⊕ Hendrick Motorsports		15.63%
⊕ Joe Gibbs Racing		11.32%
⊖ JTG Daugherty Racing		
	Bobby Labonte	4.24%
JTG Daugherty Racing Total		4.24%
⊖ Michael Waltrip Racing		
	Martin Truex Jr.	2.95%
Michael Waltrip Racing Total		2.95%
⊕ Penske Racing		5.06%
⊕ Red Bull Racing Team		3.17%
⊕ Richard Childress Racing		15.64%
⊕ Richard Petty Motorsports		7.07%
⊕ Roush Fenway Racing		18.63%
⊖ Stewart-Haas Racing		
	Ryan Newman	3.99%
	Tony Stewart	4.27%
Stewart-Haas Racing Total		8.27%
Grand Total		100.00%

Master Data Prerequisites

When creating your master data from which a PivotTable will be generated, it is important to first format the data as follows:

- organize the information in rows containing the lowest level of data;
- define all columns with column headings;
- remove blank rows or columns; and
- remove subtotals and grand totals created using the Subtotals command as the PivotTable automatically creates subtotals and grand totals.

Creating a PivotTable Report

1. Click your cursor within your master data, and then click the **Insert Tab | PivotTable**. The *Create PivotTable* dialog box displays (shown right). The **Select a table or range** field should already have your master data range populated.
2. Select the location to place the PivotTable and click **OK**. The PivotTable inserts with the **Field List** and *PivotTable Tools Command Tabs Analyze* and *Design* displayed (shown on the next page).



For software training, contact the Computer Training Center (CTC) at 358-1111 or visit the CTC Web site at <http://itcd.hq.nasa.gov/ctc>.

PivotTable and Field List Pane

PivotTable Report

Make	Team	Sum of Poles	Sum of Top 5	Sum of Top 10	Sum of Wins
Chevrolet	Earnhardt Ganassi Racing	4	23	39	4
	Hendrick Motorsports	2	9	16	2
	Richard Childress Racing	0	8	12	2
	Stewart-Haas Racing	0	4	6	0
Dodge	Penske Racing	0	1	5	0
	Richard Petty Motorsports	4	9	18	2
Ford	Roush Fenway Racing	0	1	3	0
	Joe Gibbs Racing	4	8	15	2
Toyota	JTG Daugherty Racing	0	5	12	1
	Michael Waltrip Racing	0	4	7	1
	Red Bull Racing Team	0	1	1	0
		0	0	1	0
Grand Total		8	38	74	7

PivotTable Field List

Choose fields to add to report:

- ☐ Rank
- ☐ Car #
- ☐ Driver
- ☒ Make
- ☐ Sponsor
- ☒ Team
- ☐ Crew Chief
- ☐ Points Behind
- ☐ Average Start
- ☐ Average Finish
- ☐ % Completed
- ☐ Points
- ☐ Winnings
- ☐ Starts

Drag fields between areas below:

FILTERS

COLUMNS

ROWS

VALUES

Defer Layout Update

Define the PivotTable Parameters

Use the *PivotTable Field List Pane* to select the fields to include in your PivotTable.

1. Click the **checkbox** for the fields to be included.

By default they will display in the area that makes the most sense.

2. To move a field from one area to another, click and drag the fields between the areas.

Drag fields between areas below:

FILTERS

Display fields as subset from master

COLUMNS

Crew Chief

Display data horizontally, one item per column

ROWS

Make

Team

Display Text fields vertically, one item per row

VALUES

Sum of Winnings

Display Numeric fields as sum (or other calculation) vertically, one item per row

PivotTable Tools - Design Command Tab: Layout, PivotTable Style Options and PivotTable Styles.

PivotTable Tools - Design Command Tab

Layout

Subtotals: Do not show, Show all at bottom, Show all at top

Grand Totals: On/Off for Rows and Columns, On for Rows, On for Columns

PivotTable Style Options

☒ Row Headers ☐ Banded Rows

☒ Column Headers ☐ Banded Columns

PivotTable Styles

Click **PivotTable Tools Design Tab** to customize the design of the PivotTable.

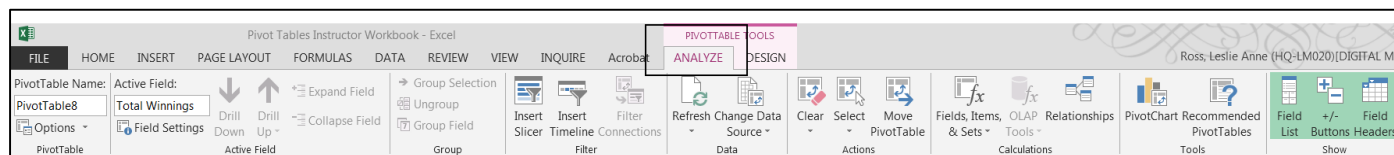
- **Subtotals** drop-down arrow: options include **Do not show**, **Show all at bottom**, or **Show all at top** of each grouping.
- **Grand Totals** drop-down arrow: options include **On/Off for Rows and Columns**, **On for Rows** or **On for Columns**.

- **Report Layout** drop-down arrow: select layout as...
 - Compact Form;
 - Outline Form; or
 - Tabular Form.
- **Blank Rows** drop-down arrow: insert or remove blank row after each item.

Click **PivotTable Tools Design Tab** and select the desired style from the pre-defined PivotTable Quick Styles. To make customizations to the style use the following checkboxes:

- **Row Headers:** click the checkmark to enable/disable the **Row Header** formatting in the selected style.
- **Column Headers:** click the checkmark to enable/disable the **Column Header** formatting in the selected style.
- **Banded Rows:** click the checkmark to enable/disable **banded rows** (alternating between 2 colors).
- **Banded Columns:** click the checkmark to enable/disable **banded columns** (alternating between 2 colors).

PivotTable Tools - Analyze Command Tab: PivotTable, Active Field, Group, Filter, Data, Actions, Calculations, Tools and Show.



Defining Master Data as a Table

Defining the Master Data as a table before generating a PivotTable makes the report easier to update. Excel names the table as a range that can be used to create additional tables easily, refresh the report and allow you to navigate to the Master Data quickly.

1. Click your cursor within your master data. Click the **Insert Tab | Table**.
2. Enable the **“My table has headers”** option.
3. Click **OK**. The Master Data is now defined as a table and the range is named by the default, such as Table1.
4. To change the range name, click the **Formulas Tab | Name Manager**. Select the range from the list and click **Edit**.
5. In the *Edit Name dialog* box, change the text in the **Name** field and click **OK**.

*After updating the content in the master data, **right-click on your PivotTable** and select **Refresh** to update the table with the new content.*

Summarizing a Table with a PivotTable Report

1. You can quickly create a PivotTable from a table using **Summarize with PivotTable**.
2. Click your cursor within your master data, and then click the **Table Tools Design Tab | Summarize with PivotTable**. The *Create PivotTable* dialog box displays.
3. The **Select a table or range** field should already have your master data range name populated. Select the location to place the PivotTable and click **OK**.

The PivotTable inserts with the **Field List** and the *PivotTable Tools Command Tabs Analyze and Design* displayed.

Follow the steps outlined in the section “Define the PivotTable Parameters” to create the PivotTable.

Updating Data

Refreshing the Data

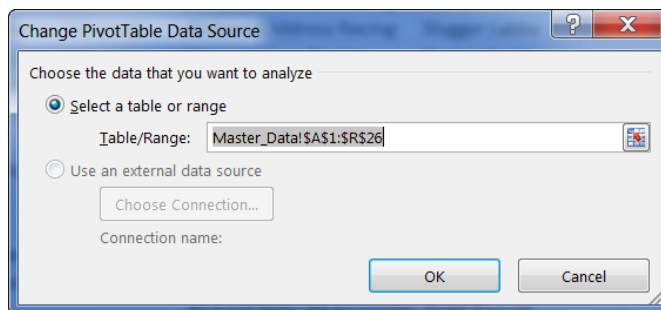
When updating the Master Data, if you add a column or a row, you may be able to simply **Refresh** the data. However, you may need to change the data range to include the new columns or rows.

1. Change the Master Data (add a column or row).
2. Right-click on your PivotTable and select **Refresh** or click **Refresh** on the **PivotTable Tools Analyze Tab**.

Changing the Data Range

If the PivotTable report does not refresh including the new data, do the following:

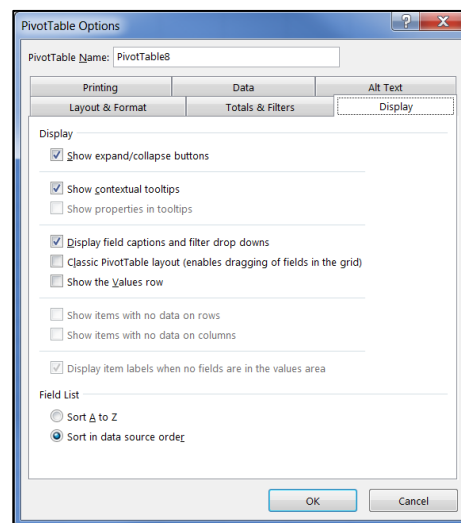
1. From the **PivotTable Tools Analyze Tab**, click **Change Data Source** | **Change Data Source**. The *Change PivotTable Data Source* dialog box displays (shown right).
2. Change the range to include the new columns and/or rows.
3. Click **OK**. The PivotTable will refresh and include the new data.



Working with PivotTable Options

Click **PivotTable Tools Analyze Tab** | **Options** drop-down arrow | **Options** or right-click on the PivotTable and select **PivotTable Options** to:

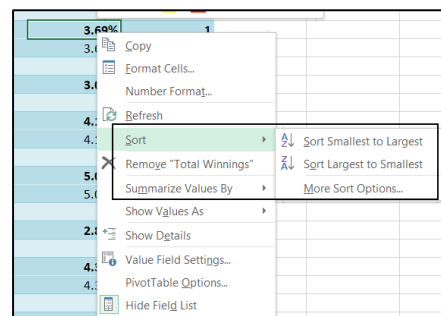
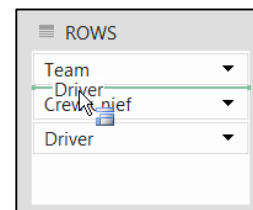
- Create a custom name by typing a name in the **PivotTable Name** field or
- Customize the **Display**, **Layout and Format**, **Totals and Filters**, **Printing**, **Data** and **Alt Text**.
- Ensure the PivotTable retains custom formatting by clicking the **Layout & Format Tab** and enabling **Preserve cell formatting on update**.
- Maintain the width of the columns when adding lengthy text in a cell, click the **Layout & Format Tab** and deselect **AutoFit column widths on update**.



Sorting the Data

The first field in the **Row** area will be the primary sort by default. To sort by a different column:

- Click and drag the desired field to the first position in the **Row Labels** area.
- Click the cursor into the first column (sort column) | right-click and select **Sort** | **A-Z** or **Z-A** from the shortcut menu.
- To sort in numeric columns, click the cursor in the column and then right-click and select **Sort** | **Smallest to Largest** or **Largest to Smallest** from the shortcut menu.



Filtering the Data

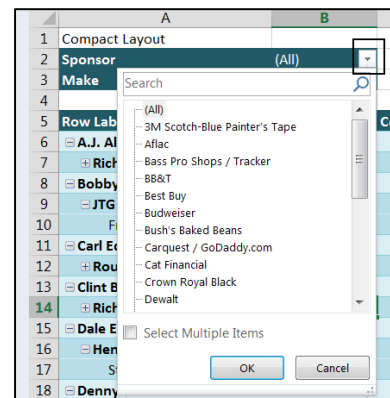
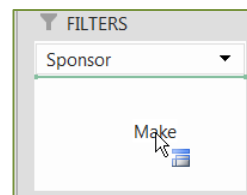
Report Filters display fields as a subset of the master data. You can filter by a field not included in your PivotTable as long as it is in the Master Data.

1. From the **PivotTable Field List**, click and drag the desired field to the **Report Filter** area (shown right).

The **Report Filter** displays at the top of the PivotTable with a drop-down arrow to select the specific data to filter by.

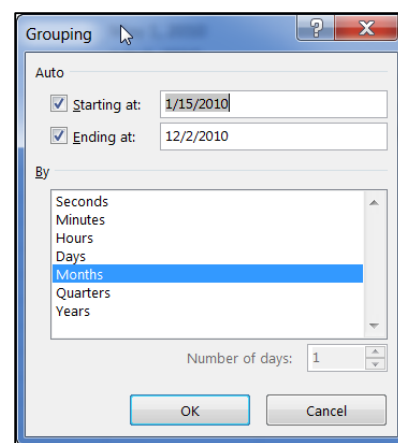
2. Click the drop-down arrow for the filter and select the data to filter by.

Click the individual item to filter by or click **Select Multiple Items** and then click the checkboxes to choose more than one filter term.



Using the Group Selection Feature

1. Right-click on the data and click the **PivotTable Tools Analyze Tab | Group Selection**. The **Grouping** dialog box displays (shown right).
2. Enter a **start** and **end** date for the grouping data.
3. Select the criteria to group by and click **OK**. The PivotTable will group the information accordingly.

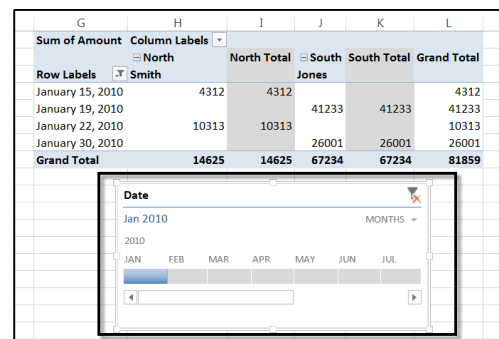


	A	B	C	D	E	F	G	H	I	J	K	L	M
1	Date	Invoice Ref	Amount	Sales Rep.	Region		Sum of Amount	Column Labels					
2	5/1/2010	2010-0001	\$ 33,242.00	Smith	North			North					
3	7/1/2010	2010-0002	\$ 41,234.00	Barnes	South								
4	8/1/2010	2010-0003	\$ 3,255.00	Brown	North								
5	12/1/2010	2010-0004	\$ 34,124.00	Brown	North								
6	1/15/2010	2010-0005	\$ 4,312.00	Smith	North								
7	1/19/2010	2010-0006	\$ 41,233.00	Jones	South								
8	1/22/2010	2010-0007	\$ 10,313.00	Smith	North								
9	1/30/2010	2010-0008	\$ 26,001.00	Jones	South								
10	2/2/2010	2010-0009	\$ 34,234.00	Barnes	South								
							Grand Total	37379	47867	85246	75468	67234	142702

Inserting a Timeline

A timeline makes it simpler to compare your PivotTable or PivotChart data over different time periods. Instead of grouping by dates, users can filter dates interactively or move through data in sequential time periods, like rolling month-to-month performance.

1. Click in the PivotTable to be used as the data for the timeline.
2. Click the **PivotTable Tools Analyze Tab | Insert Timeline**. The **Insert Timelines** dialog box displays with options for types of timelines.
3. Click to select the desired timeline type and click **OK**. The Timeline is inserted (shown right).



A **Timeline Tools Tab** displays (shown below) with options to change the style, size and elements included in the Timeline.

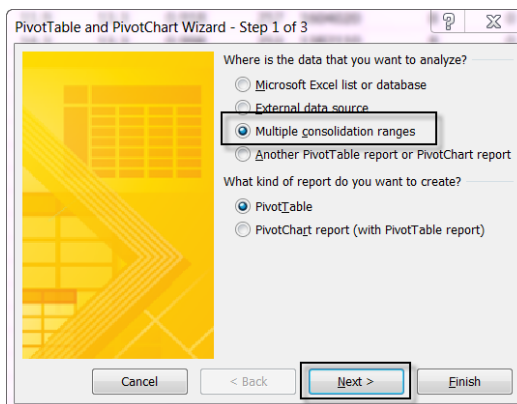


4. To remove the Timeline, right-click on the Timeline and click **Remove Timeline**.

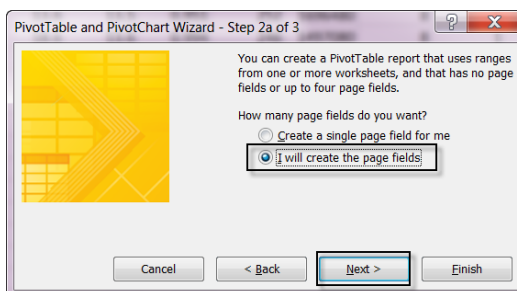
Creating Consolidated PivotTables

To consolidate multiple data ranges into one PivotTable, they must all have the same column headings. Otherwise, Excel cannot relate them to each other.

1. Click the cursor into a blank cell in the workbook that is not part of a PivotTable report.
2. To start the *PivotTable and PivotChart Wizard*, press **ALT+D+P**.
3. Step 1 of Wizard: click **Multiple consolidation ranges** | select **PivotTable** as the type of report.
4. Click **Next**.



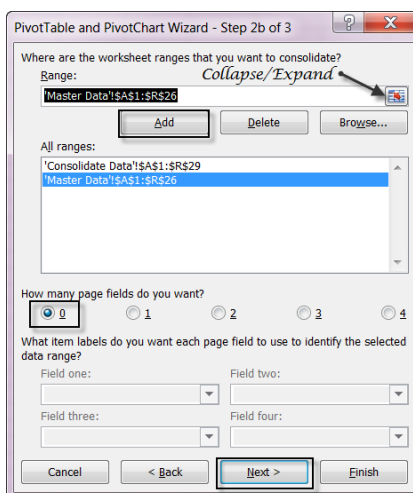
1. Step 2a of Wizard: click **I will create the page fields**.
2. Click **Next**.



3. Step 2b of Wizard: for each cell range to be consolidated, collapse the Wizard and select the **cell range** on the worksheet.
4. Expand the Wizard and click **Add**.

If the cell range is in another workbook, open the workbook first to make it easier to select the data.

5. Select **0** as the number of **page fields** you want.
6. Click **Next**.



1. On the Step 3 of Wizard: Select a location for the PivotTable to be displayed. For this example, we selected **New worksheet**.
2. Click **Finish**.

The PivotTable inserts as directed with the data consolidated into one PivotTable Report.

